UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,109	07/28/2006	Hiroshi Osawa	Q83261	1656

7590 01/03/2008

Sughrue Mion
2100 Pennsylvania Avenue NW
Washington, DC 20037-3213

EXAMINER
HARRIS, GARY D

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
01/03/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/582,109	OSAWA ET AL.	
	Examiner	Art Unit	
	Gary D. Harris	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) ~~Paper No(s)~~/Mail Date 6/08/06; 11/01/06
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: pieces are not defined in the specification.

Specification

Claim 9 is objected to because of the following informalities: Applicant has not disclosed where dependent claim 9 is directed. Examiner has treated claim 9 to depend on claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 102/103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 & 2 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Murao US PGPub 2005/0170103.

As to Claim 1 & 2, Murao et al. '103 discloses a nonmagnetic substrate with texturing (Paragraph 39 & 64), multiple stacked underlayers comprising Cr alloys including Cr-Mn alloy (Paragraph 47), magnetic layer, protective layer (Paragraph 59) and easy axis of magnetization (Paragraph 754).

Alternatively, a residual magnetization index would be an inherent feature as both applicant and Murao et al. '103 disclose similar alloy structures. It has been held that where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the burden of proof is shifted to applicant to show that prior art products do not necessarily or inherently possess characteristics of claimed products where the rejection is based on inherency under 35

USC §102 or on prima facie obviousness under 35 USC §103, jointly or alternatively. *In re Best, Bolton, and Shaw*, 195 USPQ 430. (CCPA 1977).

As to Claim 3, 4, & 5, Murao et al. '103 discloses a Cr-Mo alloy with Cr being less than 100% (Paragraph 47) and ideally having a Mo-content of the Cr-Mo first underlayer in a range of 20 at. % to 35 at. %.

As to Claim 6, Murao et al. '103 discloses a Cr-Ti alloy used as one of the underlayers (Paragraph 46).

As to Claim 7, 8 & 9, Murao et al. '103 discloses Si and glass substrates with textured surfaces (Paragraph 38).

As to Claim 10 & 13, Murao et al. '103 discloses a magnetic layer utilizing Co, Ni, and Fe alloys (Paragraph 54).

As to Claim 11, Murao et al. '103 discloses a Co-Cr-Ta (Paragraph 56).

As to Claim 12, Murao et al. '103 discloses the use of Ru alloys (Paragraph 55).

As to Claim 14, Murao et al. '103 discloses the use of nitrogen gas in the deposition process but does not disclose the use of oxygen (Paragraph 53). However, Even though product-by-process claims are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

As to Claim 15, Murao et al. '103 discloses a magnetic head used in the reproduction process (Paragraph 26).

As to Claim 16, Murao et al. '103 discloses a Cr, Mn, W, Ru alloy (Paragraph 71).

As to Claim 17 & 18, Murao et al. '103 discloses a Cr-Mn alloy and additionally adding B to 10 atomic percent (Paragraph 59-60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. US 6,878,459 in view of Kanbe et al. US 2002/0150796.

As to Claim 1 & 2, Takahashi et al. '459 discloses a non-magnetic base material (35) two metal underlayers of a Cr-Mn alloy (38) and a ferromagnetic metal layer followed by a protective layer(3-4) (Col. 4, Line 44-67). The magnetic recording media has an easy axis of magnetization (Col. 9, Line 25-36) but does not disclose an axis of magnetization in the circumferential direction. However, Kanbe et al. US 2002/0150796 discloses a Cr alloy underlayer (Paragraph 20) magnetic recording media with a magnetic anisotropy in the circumferential direction with an orientation ratio from 1.4 to 1.6 with a stabilized write direction (Paragraph 92). It would have been obvious to one skilled in the art to require an axis of magnetization in the circumferential direction in order to obtain good write characteristics as disclosed by Kanbe et al. '796.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary D. Harris whose telephone number is 571-272-6508. The examiner can normally be reached on 8AM - 5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith D. Hendricks can be reached on 571-272-1401. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GH

Ramsey Zacharia
Primary Examiner
Tech Center 1700